REMARKS

Claims 1, 2, 19, 21-27, 33, and 34 were pending. Applicants have herein amended claims 1, 19, 22, 23, 33, and 34; and cancelled claims 2, 21, and 24-27. The amendments to the claims find support throughout the specification, e.g., at pages 62-65 and in the claims. No new matter has been added. Accordingly, claims 1, 19, 22, 23, 33, and 34 are pending.

In view of the amendments and the remarks herein, Applicants respectfully request reconsideration and allowance of the pending claims.

Rejections under 35 U.S.C. § 112, first paragraph

The Examiner rejected claims 1, 2, 19, 21-27, 33 and 34 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. In particular, the Examiner asserted that the limitation "antagonizes STAT homodimer DNA binding" was new matter, stating that the specification only provides written description for peptides which bind to an SH2 domain of a STAT3 polypeptide or which bind to full length STAT3 and disrupt STAT3-DNA binding. The Examiner also asserted that claim 34 included new matter in specifying that the STAT polypeptide is dimeric, noting that the specification did not provide support for the disruption of a STAT dimer after the dimer had been formed.

Applicants respectfully disagree with respect to the claims as amended. Present claim 1 recites a method of inhibiting growth of cancer cells in a patient. The method includes administering to the patient an effective amount of an antagonist of STAT3 (signal transducer and activator of transcription) signaling, where the antagonist antagonizes STAT3 homodimer DNA binding; where the antagonist noncovalently binds to a STAT3 polypeptide; and where the antagonist is a peptide having a length of 3 to 12 amino acids comprising SEQ ID NO: 20, SEQ ID NO: 22, SEQ ID NO: 24, SEQ ID NO: 25, SEQ ID NO: 26, SEQ ID NO: 27, SEQ ID NO: 28, SEQ ID NO: 30, SEQ ID NO: 31, SEQ ID NO: 32, SEQ ID NO: 34, SEQ ID NO: 35, SEQ ID NO: 36, SEQ ID NO: 37, or SEQ ID NO: 38. As acknowledged by the Examiner, the specification provides written description for peptides that bind to STAT3 and disrupt (e.g., antagonize) STAT3 DNA-binding. In addition, pages 62-65 of Applicants' specification sets

forth assays demonstrating that peptides having lengths of 12, 7, 6, 4, and 3 amino acids can e.g., disrupt STAT3 SH2 interactions; bind to full length STAT3; bind the SH2 domain of STAT3; and/or disrupt STAT3-DNA binding activity. With respect to the Examiner's rejection of claim 34, Applicants respectfully assert that the Specification does not need to provide support for the disruption of a STAT3 dimer after the dimer has been formed, as such a limitation is not recited in the claim. The Specification, however, does provide support for peptides that disrupt STAT3 DNA binding and that bind noncovalently to STAT3 polypeptides, as recited in the claim and as acknowledged by the Examiner. Applicants respectfully assert that the claims, therefore, do not include new matter and request withdrawal of the rejections.

The Examiner also rejected the claims as lacking adequate written description, stating that the disclosure of small peptides does not provide adequate written description of an entire genus of peptides, which could include proteins, or of structures not limited to peptides. In addition, the Examiner asserted that the claimed genus of antagonists was highly variant as it encompassed antagonists which bound to any STAT, not just STAT3. The Examiner stated in conclusion that an amendment of claim 1 to incorporate STAT3 in place of STAT and to further recite that the antagonists "consist of" various SEQ ID NOs as set forth in claim 25 would overcome the rejection.

Applicants respectfully disagree with respect to the claims as amended. As indicated above, present claim 1 recites that the STAT3 DNA-binding antagonist is a peptide having a length of 3 to 12 amino acids comprising SEQ ID NO: 20, SEQ ID NO: 22, SEQ ID NO: 24, SEQ ID NO: 25, SEQ ID NO: 26, SEQ ID NO: 27, SEQ ID NO: 28, SEQ ID NO: 30, SEQ ID NO: 31, SEQ ID NO: 32, SEQ ID NO: 34, SEQ ID NO: 35, SEQ ID NO: 36, SEQ ID NO: 37, or SEQ ID NO: 38. Thus, pursuant to the Examiner's suggestions, Applicants have amended the claim to recite peptide antagonists of STAT3 DNA-binding. In addition, Applicants have amended the claim to recite a length limitation on the peptide (i.e., 3 to 12 amino acids), as supported by the various peptides set forth on pages 62-65. Finally, claim 1 recites that peptides having a length of 3 to 12 amino acids have sequences that include one of the SEQ ID NOs set forth in the claim. Applicants respectfully assert that the claims find more than adequate written

description in the specification as filed, and request withdrawal of the rejections under 35 U.S.C. § 112, first paragraph.

CONCLUSION

Applicants respectfully assert that all claims are in condition for allowance, which action is hereby requested. The Examiner is invited to telephone the under-signed attorney if such would expedite prosecution.

Enclosed is a $510.00 check for the Petition for Extension of Time fee (3 months), along with a Supplemental Information Disclosure Statement and check in the amount of $180.00. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: 9/2/05

Teresa A. Lavoie, Ph.D.
Reg. No. 42,782

Fish & Richardson P.C., P.A.
60 South Sixth Street
Suite 3300
Minneapolis, MN 55402
Telephone: (612) 335-5070
Facsimile: (612) 288-9696